

REMARKS

Applicants respectfully request consideration of the foregoing amendments and remarks submitted with the Request for Continued Examination. Applicants request that the previously filed, but un-entered response after Final not be entered in lieu of the present amendments.

STATUS OF THE CLAIMS

Applicants have cancelled previously withdrawn claims 1-13, 62-135 and 155-167.

Applicants have amended claim 136 so that it now includes a limitation of cancelled dependent claims 140 and 146 and is directed to a hybrid polymer comprising a “macroporous polymer substrate.” Support for this amendment may be found in the specification at e.g., page 20, line 24 – page 22, line 27.

In addition, other changes have been made to claim 136 which Applicants believe clarify the hybrid polymer subject matter of the claim in view of the Examiners remarks in his final rejection notice. Support for these changes may be found throughout the specification including at page 5, lines 17-19, page 6, lines 3-5, page 6, lines 14-23, page 9, lines 4-5, page 12, lines 23-25, and page 17, lines 20-24

Applicants have also amended claim 141 in order to clarify the hybrid polymer structure specifically described by this dependent claim. This amendment is supported by the specification at e.g., page 19, lines 15–21.

Applicants have cancelled claims 140 and 146 in view of the incorporation of the limitations of these claims into amended claim 136.

The amendments add no new matter to the application. Applicants have made the above amendments in view of the Examiner’s comments in his prior office action, and believe that these amendments clarify the claims and place them in condition for allowance.

APPLICANTS ACKNOWLEDGE CLAIMS 155-167 NO LONGER PENDING

Applicants acknowledge their previous inadvertent error in reciting claims 155-167 as still pending, and acknowledge that these claims were deemed withdrawn in view of the Examiner’s initial restriction. Further, in view of the current Final Rejection, Applicants have cancelled all previously withdrawn claims 1-13, 62-135 and 155-167.

INTERPRETATION OF CLAIM LIMITATIONS

Applicants acknowledge that the Examiner's interpretations of the terms "co-continuous" and "architecture" are consistent with the Applicants' use of these terms in the specification.

Applicants also wish to clarify their understanding of the claim limitation, "a surface modified to facilitate co-continuity of functional groups to an external environment." As supported by the specification (see, e.g., page 6, lines 25-30), this limitation is intended to mean that "the substrate polymer presents a high surface area to maximize the accessibility of functional groups to an external environment." For example, the substrate polymer may have a grooved or porous surface morphology or may be modified to provide such a surface morphology.

Applicants believe that the limitation "macroporous polymer" would be understood by one of ordinary skill in the art to mean a polymer comprising a large number of pores or voids having diameters ranging from about 50 nm to about 1000 nm. Generally, Applicants note that macroporous polymers are made by specific and careful design and not according to the conventional polymer processing techniques.

Applicants assert that contrary to the Examiner's suggestion, they have not attempted define any terms in derogation of their common usage. Applicants have only attempted to use terms that they believe best characterize their invention: a hybrid polymer structure with unique properties related to its functional characteristics in external environments. As stated above, Applicants believe that the Examiner's interpretation of the claim limitations based on the common meaning is consistent with the definition based on the specification.

AS AMENDED THE CLAIMS ARE NOT ANTICIPATED OR RENDERED OBVIOUS BY
THE CITED PRIOR ART REFERENCES

Applicants have carefully reviewed the cited prior art references along with the Examiner's comments and have provided amended claims that distinguish the novel structural and functional characteristic of the present hybrid polymers over the disclosure found in the cited art.

Significantly, Applicants have amended claim 136 so that it now requires that the polymer substrate is macroporous. The production of macroporous polymers is discussed generally in the specification at page 20, line 24 – page 22, line 18, and production of specific exemplary macroporous polymers is described in the application at page 31, lines 21-27. In

addition, Applicants have amended claim 136 to clarify that it is the functional groups of the hybrid polymer structure that must be co-continuous with the external environment.

In view of these amendments, Applicants believe that claim 136 now recites a hybrid polymer structure not anticipated or rendered obvious by the prior art references of Pasic *et al.*, Chin *et al.*, or Rolando *et al.* None of the cited references teaches or suggests a hybrid polymer structure comprising the combination of: (1) a macroporous polymer substrate with a surface modified to facilitate co-continuity of grafted polymer functional groups to an external environment; and (2) one or more polymer grafts in pellicular formation on the surface of the macroporous polymer substrate, wherein said grafted polymers have a combined thickness less than 50 μm , and functional groups which are capable of remaining co-continuous in the external environment.

In addition, Chin *et al.* and Rolando *et al.* disclose graft copolymers wherein the graft is formed through the entire polymer matrix and not “grafted in pellicular formation to the surface of said substrate,” as required by claim 136 as currently amended. One of ordinary skill would recognize that the grafting methods of Chin *et al.* and Rolando *et al.* cannot yield hybrid polymers with the claimed structural and functional features of the presently claimed polymers, specifically, pellicular grafts featuring functional groups capable of maintaining co-continuity with the external environment. Therefore, Applicants respectfully assert that the claims as currently amended are novel and nonobvious over these references.

CONCLUSION

In view of the foregoing amendments and remarks, the Applicants believe that the application is in proper form and condition for allowance. If, in the opinion of the Examiner, the amendments claims are deemed unallowable, the Examiner is encouraged to call the undersigned at (650) 463-8133.

Respectfully submitted,

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